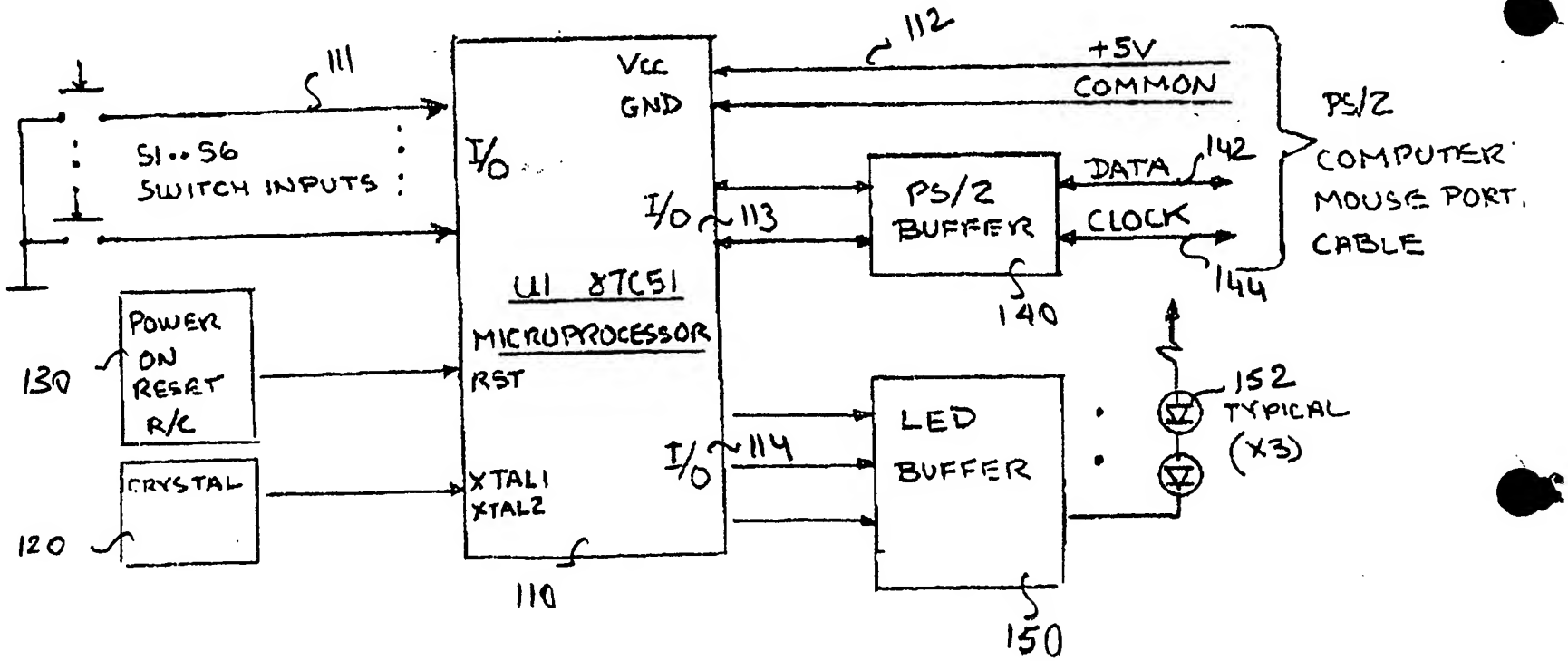
111
S1 .. S6
SWITCH INPUTS
Vcc
GND
I/O
I/O
113
U1 87C51
MICROPROCESSOR
RST
XTAL1
XTAL2
110
112
+5V
COMMON
PS/2
BUFFER
DATA
CLOCK
142
144
140
PS/2
COMPUTER
MOUSE PORT
CABLE
POWER
ON
RESET
R/C
130
CRYSTAL
120
I/O
114
LED
BUFFER
150
152
TYPICAL
(X3)
100

FIG. -1

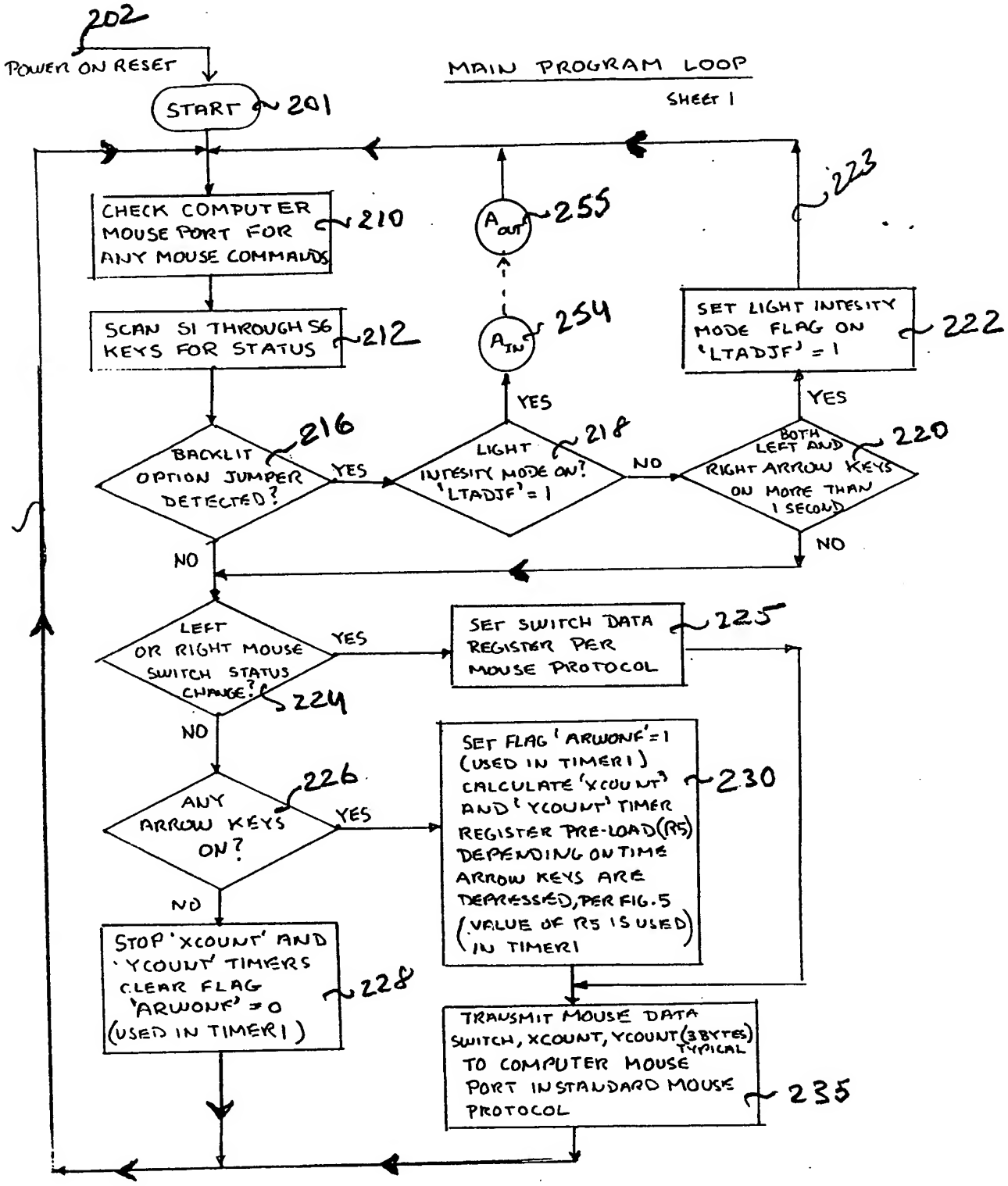
202
POWER ON RESET
MAIN PROGRAM LOOP
SHEET 1
START
201
CHECK COMPUTER MOUSE PORT FOR ANY MOUSE COMMANDS
210
SCAN S1 THROUGH S6 KEYS FOR STATUS
212
BACKLIT OPTION JUMPER DETECTED?
216
YES
NO
LIGHT INTESITY MODE ON? 'LTADJF' = 1
218
YES
NO
BOTH LEFT AND RIGHT ARROW KEYS ON MORE THAN 1 SECOND
220
YES
NO
SET LIGHT INTESITY MODE FLAG ON 'LTADJF' = 1
222
223
A_{OUT}
255
A_{IN}
254
234
LEFT OR RIGHT MOUSE SWITCH STATUS CHANGE?
224
YES
NO
SET SWITCH DATA REGISTER PER MOUSE PROTOCOL
225
ANY ARROW KEYS ON?
226
YES
NO
SET FLAG 'ARWONF' = 1 (USED IN TIMER1) CALCULATE 'XCOUNT' AND 'YCOUNT' TIMER REGISTER PRE-LOAD (R5) DEPENDING ON TIME ARROW KEYS ARE DEPRESSED, PER FIG. 5 (VALUE OF R5 IS USED) IN TIMER1
230
STOP 'XCOUNT' AND 'YCOUNT' TIMERS CLEAR FLAG 'ARWONF' = 0 (USED IN TIMER1)
228
TRANSMIT MOUSE DATA SWITCH, XCOUNT, YCOUNT (3 BYTES TYPICAL) TO COMPUTER MOUSE PORT IN STANDARD MOUSE PROTOCOL
235

FIG. 2A

200

MAIN PROGRAM LOOP

SHEET 2

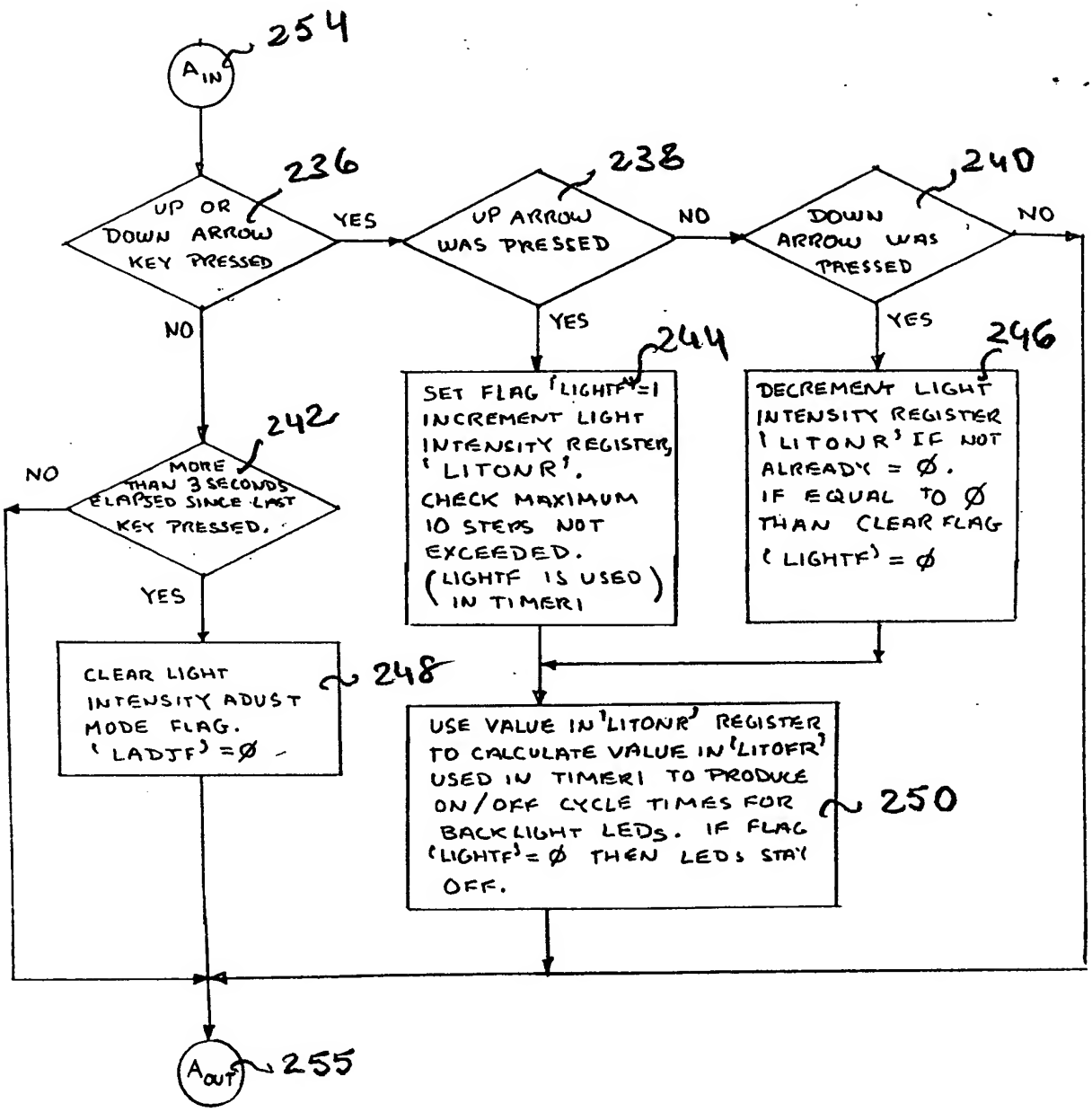

FIG. 2B

200

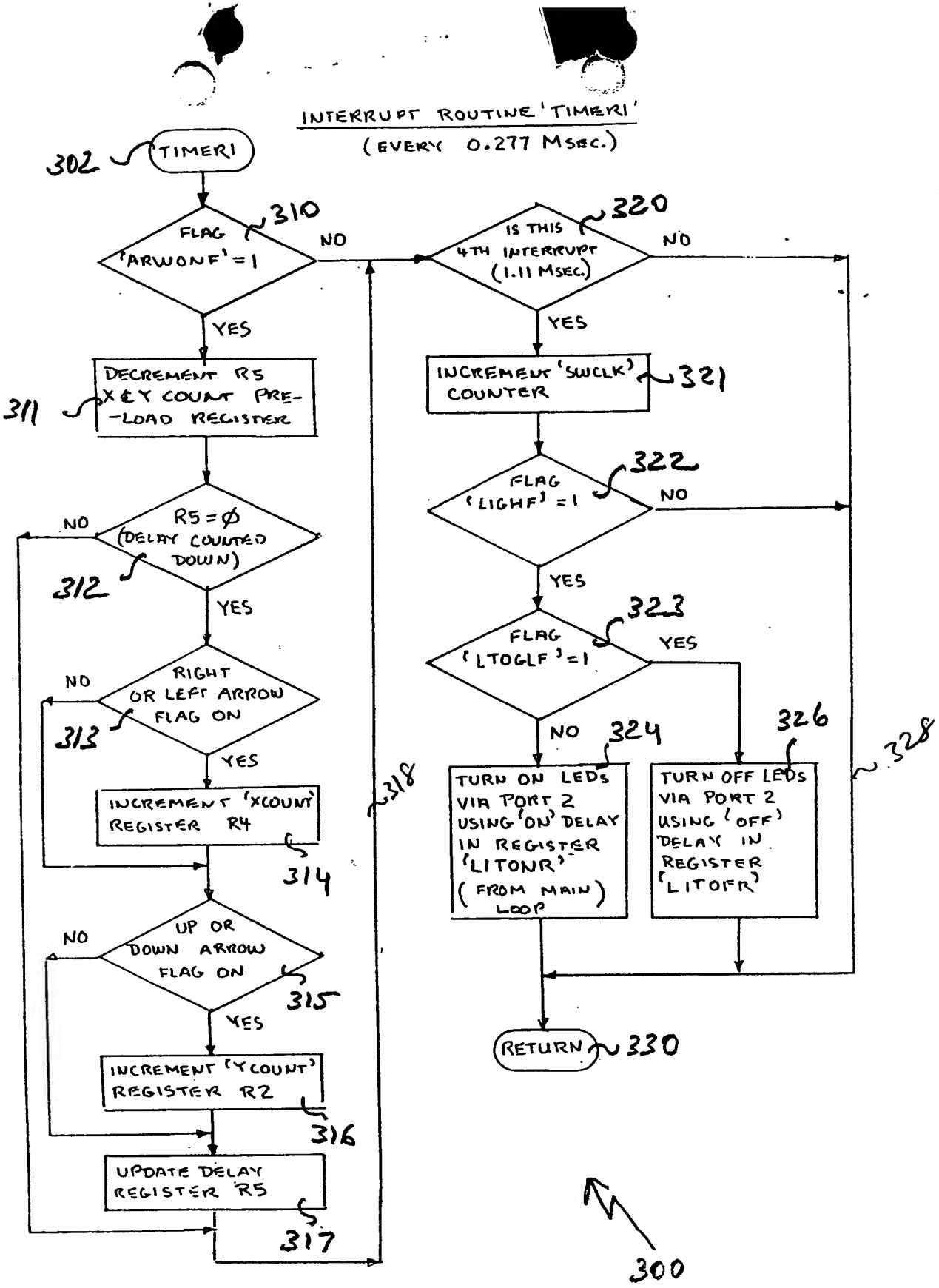
INTERRUPT ROUTINE 'TIMER1'
(EVERY 0.277 MSEC.)
302
TIMER1
310
FLAG 'ARWONF' = 1
NO
YES
311
DECREMENT R5 X & Y COUNT PRE-LOAD REGISTER
312
R5 = Ø (DELAY COUNTED DOWN)
NO
YES
313
RIGHT OR LEFT ARROW FLAG ON
NO
YES
314
INCREMENT 'XCOUNT' REGISTER R4
315
UP OR DOWN ARROW FLAG ON
NO
YES
316
INCREMENT 'YCOUNT' REGISTER R2
317
UPDATE DELAY REGISTER R5
318
320
IS THIS 4TH INTERRUPT (1.11 MSEC.)
NO
YES
321
INCREMENT 'SWCLK' COUNTER
322
FLAG 'LIGHF' = 1
NO
YES
323
FLAG 'LTOGLF' = 1
YES
NO
324
TURN ON LEDs VIA PORT 2 USING 'ON' DELAY IN REGISTER 'LITONR' (FROM MAIN LOOP)
326
TURN OFF LEDs VIA PORT 2 USING 'OFF' DELAY IN REGISTER 'LITOFR'
328
RETURN
330
300

FIG. 3

20070 0787507

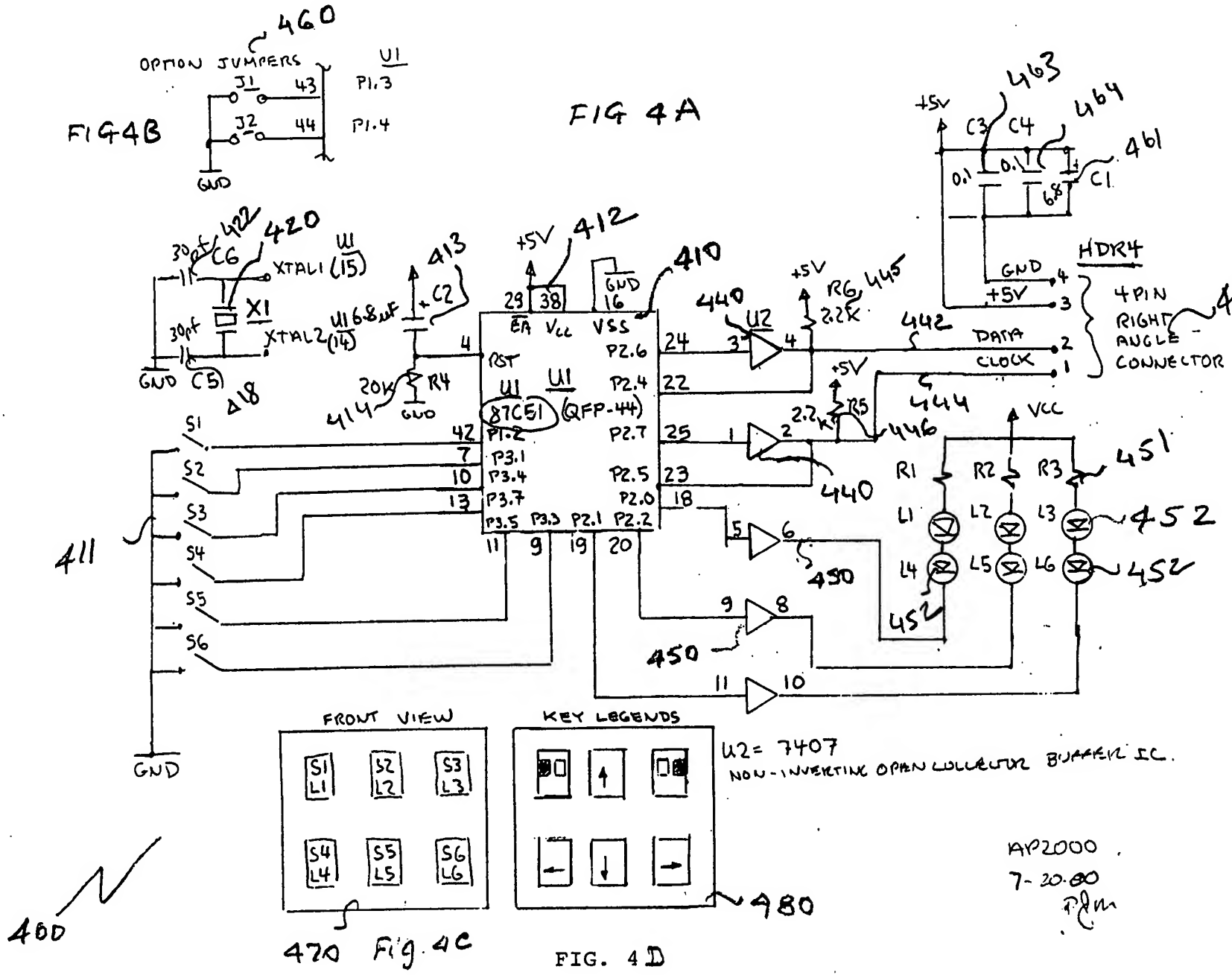

FIG 4 (A-D)

CURSOR RATE v/s ARROW KEY ON TIME

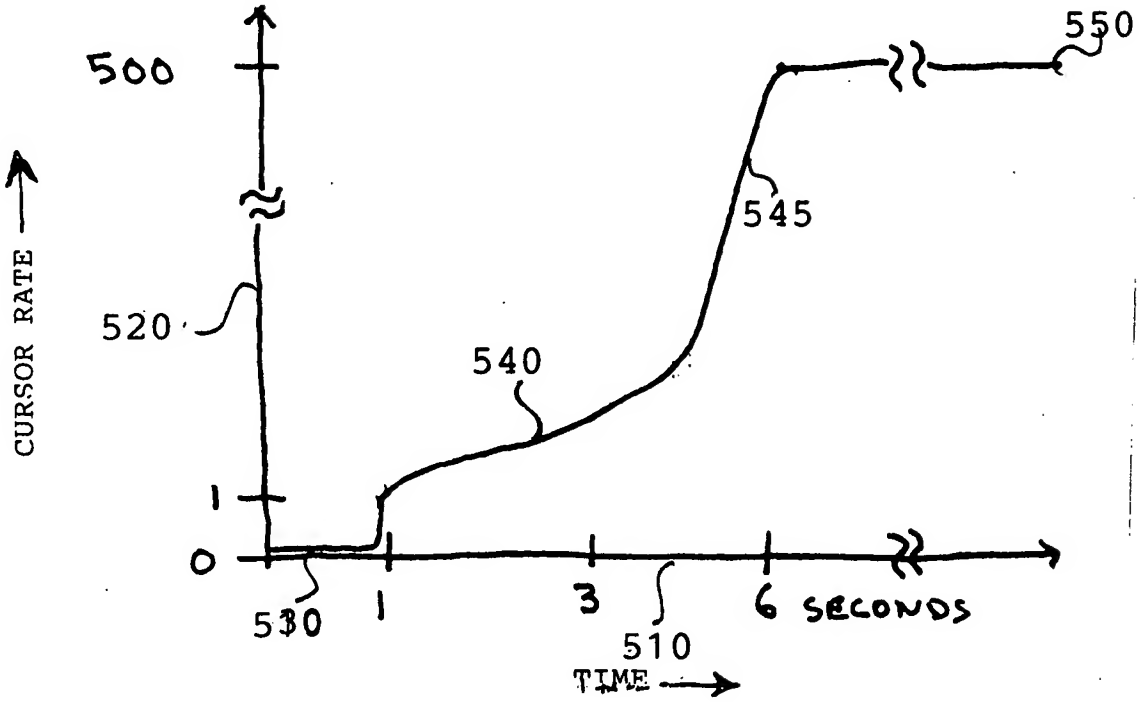

FIG. - 5

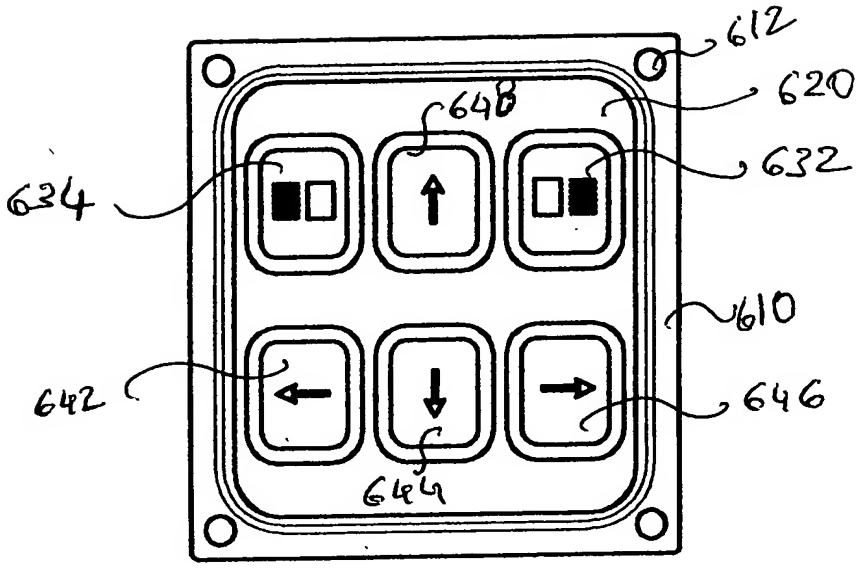

Fig. 6

600

640 = Arrow keys

630 = MOUSE Button Functions.